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VOL. 14 No. 38

September 18, 1964

Cooperative
**ECONOMIC INSECT
REPORT**



Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20781

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

CORN EARWORM outbreak on soybeans in Arkansas subsiding; populations increasing and/or damaging soybeans in areas of South Carolina, Georgia and Louisiana. Corn earworm in combination with Trichoplusia spp. necessitated extensive controls on soybeans in areas of North Carolina. (p. 1061). ALFALFA CATERPILLAR increasing on alfalfa in Arizona (pp. 1061-1062), PEA APHID increasing on same crop in Michigan and Wisconsin and various PLANT BUGS numerous on soybeans and alfalfa in Missouri and alfalfa and other seed fields in Maryland, Colorado, Nevada and Idaho. (p. 1063). GRASSHOPPERS caused estimated \$2,000,000 damage to crops and range in Utah; RED-LEGGED GRASSHOPPER extremely heavy in areas of Alabama and caused conspicuous damage to foliage and silks of corn in areas of Maryland. (pp. 1063-1064). FALL ARMYWORM of concern in Arizona, Texas, Oklahoma and South Carolina. (p. 1064). SPOTTED ALFALFA APHID heavy in areas of Oklahoma and Colorado. (p. 1065).

GREEN PEACH APHID damaging various muck crops in Michigan. (p. 1068).

BOLLWORMS very active on cotton in southern Fresno County, California; populations heavy in areas of Texas and Oklahoma; causing considerable damage over cotton-growing area of Tennessee; and continue most important pest of cotton in some upper Piedmont counties of South Carolina. BOLL WEEVIL heavy in areas of Oklahoma, Louisiana and Alabama. (pp. 1070-1071).

DETECTION

A PLANT BUG (Heterotoma meriopterum) reported for first time in California. (p. 1072). New county records included NORTHERN CORN ROOTWORM (Diabrotica longicornis) in Montgomery County, Maryland (p. 1065); ELM LEAF BEETLE (Galerucella xanthomelaena) in Sandoval County, New Mexico (p. 1072); and EUROPEAN EARWIG (Forficula auricularia) in Ionia County, Michigan (p. 1072).

CORRECTIONS

See page 1075.

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (pp. 1078).

Reports in this issue are for week ending September 11, unless otherwise indicated.

WEATHER OF THE WEEK ENDING SEPTEMBER 14

Hurricane Dora left from 8 to more than 19 inches of rain over parts of northern Florida. Thunderstorms provided 6 to 10 inches over a small area in north-central Iowa. Temperatures over the central and northeastern sections of the Nation dropped from unseasonably warm to unseasonably cool during the week.

TEMPERATURE: Polar continental air lay over the Dakotas early in the week. Warm, moist gulf air lay over the central and Southern States. Afternoon temperatures climbed into the 90's in the maritime tropical air but reached only the 60's and 70's in the cool air. Chicago, Illinois, registered 90° or higher on each day, Monday to Thursday. As the polar air pushed southward, summer heat and humidity were replaced by the coolest weather of the season. The temperature at Syracuse, New York, dropped from 91° Thursday afternoon to 38° Sunday morning. Temperatures in Kansas dropped more than 40° in 2 days as the front moved across the State. Temperatures averaged above normal over the central and southern Rocky Mountains, most of Texas, and from Illinois and Michigan eastward to the Atlantic Ocean except northern New England and below normal over the rest of the Nation. Temperatures over northwestern North Dakota averaged more than 9° below normal.

PRECIPITATION: Hurricane Dora produced from 8 to 19 inches of rain over a small area west of Jacksonville, Florida, and lesser amounts from Apalachicola to Norfolk, Virginia. Heavy thunderstorms left 6 to 10 inches over north-central Iowa and nearby counties in Minnesota. As the cold front moved southward, it triggered showers over wide areas in Texas. The largest amounts fell in the extreme west, southwest, and south portions of the State. Heavy rains caused local flooding in the Tucson, Arizona, area. Most other parts of the Nation received no rain of importance.

HURRICANE DORA: Dora, the first tropical cyclone of full hurricane force on record to pass inland over the northeastern Florida coast, and the second severe hurricane to affect Florida this season, was first detected in the south-central Atlantic on September 1. Dora moved on a northwesterly, then westerly course to a position off northeastern Florida on the 9th.

Dora was a large hurricane. Increasing strong winds and high storm tides raked a broad section of coastal Florida and Georgia during the 9th. Sustained winds along the immediate coast reached an estimated speed of 100 mph. Sustained winds of 82 mph were observed at Jacksonville at 7:48 p.m. Storm tides ranged from 5 to 8 feet above normal along much of the coast from Daytona Beach into southern Georgia, with a 10-foot tide reported at St. Augustine. Heavy property damage and beach erosion resulted from tidal action. The central eye, unusually large with a 50-mile diameter, moved inland near St. Augustine shortly before midnight on the 9th. Minimum pressure there was 28.56 in. (967 mb.). Dora continued on a track slightly north of west, reaching extreme southeastern Alabama with much diminished winds on the 11th, then moved back eastward across southern Georgia on the 12th as it regained intensity, particularly over coastal sections. During the 13th, the center moved northeastward through coastal sections of the Carolinas and off shore near Hatteras and continued northeastward on the 14th, passing about 75 miles southeast of Cape Cod.

Heavy rains spread across north Florida, south Georgia, southeastern Alabama, coastal sections of South Carolina, North Carolina, Virginia, the Eastern Shore of Maryland to southern New Jersey, and extreme southeastern New England as Dora passed over or near these areas. Greatest storm totals were in northern Florida, ranging from 12 to 15 inches between the Suwannee and St. Johns Rivers north of Gainesville. About 19 inches fell at Live Oak, Florida, in this area. Widespread flooding resulted. Amounts were 6 to 8 inches as far south as Orlando and as far west as Tallahassee. From 3 to locally over 8 inches of rain fell from southern Alabama northeastward into the Hampton Roads area. One to 2 inches were generally received farther north. Preliminary reports of property damage from tides and wind indicated losses near \$200 million in Florida, and several million in Georgia. No deaths as a direct result of Dora have been reported. (Summary supplied by U.S. Weather Bureau). See page 1069 for 30-Day Outlook.

CEREAL AND FORAGE INSECTS

CORN EARWORM (*Heliothis zea*) - ARKANSAS - Current outbreak reported in CEIR 14(36):1017 and 14(37):1045 appears to be subsiding; extremely late soybeans that may still be blooming should be checked, however. Infestations noted in northeast this period. Species has increased in importance on soybeans in State during past 5 years. Survey indicates that 1, 4, 10 and 20 percent of soybean acreage has been treated for this pest during past 4 consecutive years, respectively. Acreage treated during 1964 increased tremendously. Past experience indicates main crop will probably not be reinfested. (Ark. Ins. Sur.). OKLAHOMA - Heavy in alfalfa in Kay, Osage, Pawnee, Payne, Okfuskee, Lincoln and Choctaw Counties; averaged up to 35 per 10 sweeps. Averaged 12 per 100 terminals in peanuts in Creek County and 10 per 100 heads in sorghum in Kay and Noble Counties. Heavy on sweet corn in Choctaw County. (Okla. Coop. Sur.). TEXAS - This species and *H. virescens* (tobacco budworm) moderate and damaging sesame in Burleson County. (Rivers, Hamman, Meisch). LOUISIANA - Very heavy in soybeans in Shreveport, St. Joseph and St. Landry areas. (Tynes, Sept. 8). ALABAMA - Extremely heavy in young corn in Dallas County. (McQueen). GEORGIA - Caused light to heavy damage to pods of soybeans in northeast and southeast areas of State. (Johnson). SOUTH CAROLINA - Increasing on soybeans in Colleton and Edgefield Counties; infesting soybeans in Kershaw and Orangeburg Counties. (Nettles et al., Sept. 2). NORTH CAROLINA - This species and *Trichoplusia* spp. necessitated extensive treatment of soybeans in Perquimans, Pasquotank, Camden and Currituck Counties during past 2 weeks; an estimated 30,000 acres treated in one county. *Trichoplusia* spp. most severe in Camden and Currituck Counties; ragging of leaves noticeable in many fields and 70-80 percent of leaf surface destroyed in few fields. Disease and pupation reducing *Trichoplusia* spp. population rapidly. *H. zea* in combination with 3 other species of Lepidoptera caused light ragging of leaves of peanuts in a Chowan County field. (Falter, Mount). MARYLAND - Larvae moderate to heavy in field corn in Montgomery and Frederick Counties. Moths averaged over 60 per night in blacklight trap at Delmar, Wicomico County, during first 2 weeks of September. Larvae moderate in alfalfa near Gaithersburg, Montgomery County. (U. Md., Ent. Dept.). DELAWARE - Adults average approximately 60 per night in blacklight trap collections in Sussex County. Larvae numerous in some fields of soybeans. (Burbutis). NEW JERSEY - Many larvae noted in fields of sweet corn; down in silks and in ears. (Ins.-Dis. Newsltr.). MICHIGAN - Adults widely distributed over Lower Peninsula; heavy flights occurred on warm evenings of September 7, 8 and 9. Many adults noted in flight in fields of late sweet corn in southeast during daylight hours as controls were being applied. (Newman, Snow). ARIZONA - Averaged 30 per 100 sweeps in alfalfa in Graham County. (Ariz. Coop. Sur.).

GREEN CLOVERWORM (*Plathypena scabra*) - ARKANSAS - Heavy in many fields of soybeans in northeast; not economic at present. No bloom or pod feeding observed. (Ark. Ins. Sur.). MISSOURI - Larvae averaged 2 per 10 sweeps on soybeans in central and east central areas; leaf feeding damage light. (Houser, Thomas). SOUTH CAROLINA - Infestations increasing in soybeans in Edgefield County. Present in soybeans in Orangeburg County. (Nettles et al., Sept. 2). MARYLAND - Light to moderate in alfalfa in central Montgomery County. (U. Md., Ent. Dept.).

VELVETBEAN CATERPILLAR (*Anticarsia gemmatilis*) - SOUTH CAROLINA - Increasing on soybeans in Colleton and Edgefield Counties; infesting same crop in Kershaw and Orangeburg Counties. (Nettles et al., Sept. 2). GEORGIA - Caused light to moderate defoliation of soybeans in northeast and southeast areas. (Johnson). FLORIDA - Considerable feeding damage on leaves of untreated soybeans noted at Gainesville, Alachua County. (Kuitert, Sept. 4). LOUISIANA - Light to moderate on soybeans in southern part of State. (Tynes, Sept. 8).

ALFALFA CATERPILLAR (*Colias eurytheme*) - ARIZONA - Larvae increasing in alfalfa in Graham, Maricopa, Pinal and Gila Counties. Counts per 100 sweeps ranged from 110 in Gila County to 900 in Graham County. (Ariz. Coop. Sur.). NEW MEXICO - Larvae in alfalfa per 25 sweeps averaged 1-2 near Corrales, Sandoval County, and 2-4 in Bernalillo County. (N.M. Coop. Rpt.). MICHIGAN - Larvae averaged

8 per 25 sweeps in 6 fields in 3 southeast counties September 8; first and second stages predominated. (Dowdy). ILLINOIS - Larval counts per 100 sweeps during week August 30-September 3, by district, were as follows: West 0-40, southwest 40-220 and west-southwest 0-10. (Ill. Ins. Rpt.). MARYLAND - Larvae ranged light to moderate on alfalfa in central Montgomery County; adults active in alfalfa in same county. (U. Md., Ent. Dept.).

BEET ARMYWORM (*Spodoptera exigua*) - ARIZONA - Infestations continued medium in alfalfa in areas of Graham and Maricopa Counties; averaged 30 per 100 sweeps in fields with heaviest infestations. (Ariz. Coop. Sur.). TEXAS - Occasional specimen found on sesame in Burleson County. (Rivers, Hamman, Meisch).

YELLOW-STRIPED ARMYWORM (*Prodenia ornithogalli*) - MARYLAND - Small larvae common in central Montgomery County. (U. Md., Ent. Dept.).

LOOPERS - LOUISIANA - Populations of unspecified species heavy in soybeans in many areas. Fungus and virus diseases exerting control in some areas. (Tynes, Sept. 8). ALABAMA - *Trichoplusia ni* (cabbage looper) heavy on soybeans in Dallas County; some controls necessary. (McQueen). GEORGIA - *Trichoplusia* spp. caused light defoliation of soybeans in northeast and southeast areas of State. (Johnson). SOUTH CAROLINA - Unspecified species increasing on soybeans in Edgefield County. (Nettles et al., Sept. 2).

RED-NECKED PEANUTWORM (*Stegasta bosqueella*) - OKLAHOMA - Counts of 72 per 100 terminals noted in field of peanuts in Creek County; infestation moderate in Bryan County. (Okla. Coop. Sur.).

WEBWORMS (*Loxostege* spp.) - MARYLAND - Several full-grown larvae collected from alfalfa near Gaithersburg, Montgomery County. (U. Md., Ent. Dept.). OKLAHOMA - Light in alfalfa in north central area; ranged 2-15 per 10 sweeps. (Okla. Coop. Sur.). TEXAS - Light to moderate populations of *L. similalis* (garden webworm) damaging alfalfa in localized areas of Hunt County. (Turney).

ALFALFA WEEVIL (*Hypera postica*) - MARYLAND - Larvae ranged 0-2 per sweep on alfalfa in central Montgomery County. (U. Md., Ent. Dept.). ARKANSAS - Surveys negative in Carroll and Marion Counties. As far as known, pest still occurs only in 9 northeastern and central counties. (Ark. Ins. Sur.). UTAH - Larvae much less numerous in northern and central area alfalfa than at same time in 1963. (Knowlton). NEW MEXICO - Counts, probably this species, averaged 1 adult and 1-3 larvae per 25 sweeps in alfalfa in Corrales area, Sandoval County. (N.M. Coop. Rpt.).

CLOVER ROOT CURCULIO (*Sitona hispidula*) - IDAHO - Newly emerged adults averaged approximately 4.5 per sweep in field of first-year red clover southwest of Parma, Canyon County, and 5 per sweep in field 10 miles southwest of New Plymouth, Payette County. (Waters). OHIO - Heavy numbers appearing in clover seed being brought to cleaning mills at Mount Gilead, Morrow County. (Dalrymple, Holdsworth).

MEXICAN BEAN BEETLE (*Epilachna varivestis*) - SOUTH CAROLINA - Increasing on soybeans in Dillon County; considered a threat to crop. (Nettles et al., Sept. 5). GEORGIA - Caused light defoliation of soybeans in northeast and southeast areas. (Johnson).

BEAN LEAF BEETLE (*Cerotoma trifurcata*) - MARYLAND - Adults noted in soybeans at several locations in Worcester County. (U. Md., Ent. Dept.).

BLISTER BEETLES (*Epicauta* spp.) - NEW MEXICO - Adults averaged 2-3 per 25 sweeps in alfalfa in Sandoval County. (N.M. Coop. Rpt.). GEORGIA - Heavy infestations noted on kudzu in Cobb County. (Vanderford).

PEA APHID (Acyrtosiphon pisum) - MICHIGAN - Adult and nymphal populations increased markedly in regrowth alfalfa in Ingham and Livingston Counties; averaged 40 per sweep September 8. Very few winged females present. (Dowdy). WISCONSIN - Continues to increase; populations heavy in alfalfa in Calumet and Outagamie Counties. (Wis. Ins. Sur.). NEW MEXICO - Very light in Bernalillo County alfalfa. (N.M. Coop. Rpt.). COLORADO - Ranged 200-300 per 100 sweeps in western area, where third cutting of alfalfa underway. (Bulla). WYOMING - Small populations noted in alfalfa in Goshen County; nymphs and adults averaged 750 per 100 sweeps. (Marks). NEVADA - Averaged 6 per sweep in alfalfa in southern Washoe County. (Cooney).

PLANT BUGS - MARYLAND - Lygus lineolaris (tarnished plant bug) adults ranged from 1 to over 5 per sweep on alfalfa in Montgomery County. (U. Md., Ent. Dept.). MICHIGAN - Adults of L. lineolaris ranged 7-30 per 25 sweeps in alfalfa and red clover in Ingham and Livingston Counties. (Dowdy). MISSOURI - Several species, predominantly Adelphocoris rapidus (rapid plant bug), ranged 2-5 per 10 sweeps on soybeans and 5-10 per 10 sweeps on alfalfa in central and east central areas. (Houser, Thomas). WYOMING - A. lineolatus (alfalfa plant bug) averaged 22 adults and nymphs per 100 sweeps in alfalfa in Goshen County. (Marks).

LYGUS BUGS (Lygus spp.) - COLORADO - Numbers high in seed alfalfa where no controls applied in western area; ranged 300-500 per 100 sweeps. (Bulla). WYOMING - Adults and nymphs average 46 per 100 sweeps in Goshen County alfalfa. (Marks). IDAHO - Adults and nymphs ranged 1-20 per sweep in various seed fields checked in northern Canyon County. (Waters). NEVADA - Varied 7-15 per sweep in alfalfa in southern Washoe County. (Cooney).

MEADOW SPITTLEBUG (Philaenus spumarius) - MICHIGAN - Adults ranged 13-34 per 25 sweeps in alfalfa in Ingham and Livingston Counties September 8; averaged 85 adults per 25 sweeps in field of red clover in Livingston County. (Dowdy). OHIO - Adults ranged light to medium in forage fields throughout central section; averaged 14 per 25 sweeps of alfalfa in Licking County. Counts lower in most fields checked. (Lyon). MARYLAND - Adults general in alfalfa in Montgomery County. (U. Md., Ent. Dept.).

GREEN STINK BUG (Acrosternum hilare) - MISSOURI - Adults on soybeans ranged 0-4 per 10 sweeps in central and east central areas. (Houser, Thomas).

POTATO LEAFHOPPER (Empoasca fabae) - MARYLAND - Large populations causing yellowing of 2 fields of alfalfa in central Montgomery County. (U. Md., Ent. Dept.). ILLINOIS - Counts per 100 sweeps by district during week August 30-September 3 were as follows: West 30-220, southwest 480-740 and west-southwest 300-370. (Ill. Ins. Rpt.). MICHIGAN - Up to 50 adults per 25 sweeps taken in Ingham County alfalfa September 8. (Dowdy).

LEAFHOPPERS (Empoasca spp.) - ARIZONA - Averaged 200 per 100 sweeps in alfalfa in Gila Valley of Yuma County. (Ariz. Coop. Sur.).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Most populations decreased or remained static in alfalfa throughout State; damage evident in Yuma, Graham and Maricopa Counties. (Ariz. Coop. Sur.).

GRASSHOPPERS - UTAH - Grasshoppers more serious in Salt Lake County than for several years; controls applied to protect farms, gardens and flowers. Controls also being applied in parts of Box Elder County. (Knowlton, Finch). Damage to crops and range estimated at \$2,000,000 this season; crop damage would have been greater except for late spring and summer rains keeping most range areas greener than usual. (Knowlton, Burnett). ARIZONA - Several species averaged 30 per square yard in many areas around Mammoth and Bakersville, Pinal County. (Ariz. Coop. Sur.). NEW MEXICO - Adults per 25 sweeps in alfalfa in Corrales area, Sandoval County, were as follows: Melanoplus differentialis (differential grasshopper) 2-4, M. bivittatus (two-striped grasshopper) 2-3 and M. sanguinipes (migratory grasshopper) 3-4. Nymphs of various species ranged 10-12 per 25

sweeps. (N.M. Coop. Rpt.). SOUTH DAKOTA - Grasshopper infestations on rangeland decreased in size and intensity compared with 1963. Cropland infestations remain about same as those present in 1963; infestations decreased in western area but increased in south central and eastern areas. (Burge). MINNESOTA - Fungus disease appearing in Kandiyohi County, but affecting only M. differentialis as of September 8. Grasshopper populations in southeast counties show decided increase over those present in 1963. M. femurrubrum (red-legged grasshopper) dominant species throughout State, with alfalfa principal habitat. M. bivittatus and M. differentialis present in low numbers at scattered locations, mostly in western and east central counties. Some damage to corn and soybeans, mostly in field margins, present in fields adjacent to alfalfa with high grasshopper populations. Grasshoppers and drought caused heavy damage to hay crops in some areas. Controls were very limited. (Minn. Ins. Rpt.). WISCONSIN - M. femurrubrum adults continue to feed along field margins of corn; populations remain high in many areas. Injury to tomato fruit reported in Richland County. (Wis. Ins. Sur.). ILLINOIS - Counts of unspecified species per 100 sweeps by district during week August 30-September 3 were as follows: West 0-20, southwest 40-60 and west-southwest 10-20. (Ill. Ins. Rpt.). INDIANA - Grasshoppers generally noneconomic throughout State; however, some isolated populations reached maximum of 5 per square yard. (Bram). LOUISIANA - Unspecified species heavy in pastures in St. Landry and Avoyelles Parishes. (Tynes, Sept. 8). ALABAMA - M. femurrubrum and other species extremely heavy in pastures, along roadsides and in grass hay crops in Henry, Barbour, Lee and Macon Counties. (Ledbetter et al.). MARYLAND - M. differentialis and M. femurrubrum caused conspicuous foliage and silk injury to corn in several fields in Montgomery and Frederick Counties. (U. Md., Ent. Dept.).

FALL ARMYWORM (Laphygma frugiperda) - ARIZONA - Medium to heavy populations damaging alfalfa and sorghum in areas of Maricopa and Pinal Counties. (Ariz. Coop. Sur.). TEXAS - Light infestations continue to appear on pastures and forage crops over wide areas in eastern portion of State. (Texas Coop. Rpt.). OKLAHOMA - Ranged moderate to heavy (30-50 per 10 sweeps) in alfalfa and moderate in soybeans in Choctaw County. (Okla. Coop. Sur.). LOUISIANA - Infestations heavy in pastures and forage crops in Caddo Parish. (Tynes, Sept. 8). ALABAMA - Few full-grown larvae noted in whorls and ears of late corn. (McQueen). GEORGIA - Light to medium on Coastal Bermuda grass, grain sorghum and millet in several areas of State. (Johnson). Moderate on lawn grasses in Atlanta area. (Blasingame). SOUTH CAROLINA - Numerous on lawns in Charleston and Columbia; heavily damaged Coastal Bermuda grass pasture in Oconee County. Widespread on lawns in Sumter County and heavily damaged lawn in Seneca, Oconee County. (Nettles et al., Sept. 3). NORTH CAROLINA - Larvae continue of concern on pastures and lawns in Piedmont and Coastal Plains areas. (Mount). NEW JERSEY - Numerous larvae noted in fields of sweet corn; mostly in tassels. (Ins.-Dis. Newsltr.).

EUROPEAN CORN BORER (Ostrinia nubilalis) - MICHIGAN - Adult numbers in blacklight traps decreasing; survey of corn in Wayne, Oakland and Livingston Counties showed all larval stages present. (Snow, Newman). NEW JERSEY - Numerous larvae noted in sweet corn; many in ears. (Ins.-Dis. Newsltr.). DELAWARE - Flight remains very large in Sussex County; blacklight trap catches averaged approximately 30 moths per night September 3-9. (Burbutis). GEORGIA - Light on corn in Putnam, Jones and Gwinnett Counties. (Brightwell, Vanderford). ALABAMA - Few full-grown larvae noted in late corn in Dallas County. (McQueen).

SUGARCANE BORER (Diatraea saccharalis) - LOUISIANA - Infestations scattered and light in rice area of State. (Tynes, Sept. 8).

RICE STALK BORER (Chilo plejadellus) - LOUISIANA - Scattered, light infestations noted in rice-growing area. (Tynes, Sept. 8).

SORGHUM WEBWORM (Celama sorghiella) - ALABAMA - Light in grain sorghum in Dallas and Elmore Counties. (McQueen).

SKIPPERS (*Lerodea* spp.) - ARIZONA - Light to medium larval populations causing moderate damage to few sorghum fields in Yuma County. (Ariz. Coop. Sur.).

NORTHERN CORN ROOTWORM (*Diabrotica longicornis*) - MARYLAND - Adults collected from corn silks and by sweeping field borders on 4 farms in Frederick County and 2 farms in Montgomery County. Montgomery County is a new county record. (U. Md., Ent. Dept.). MICHIGAN - Adult population high and feeding on ear tips of corn in Washtenaw County field. (Wells, McCrory).

CORN ROOTWORMS (*Diabrotica* spp.) - OHIO - Adults of *D. undecimpunctata howardi* (southern corn rootworm) easily collected in forage fields in Muskingum and Guernsey Counties; averaged approximately 4 per 25 sweeps. (Lyon). ILLINOIS - No adults of *D. virgifera* (western corn rootworm) noted in Jo Daviess, Carroll and Whiteside Counties where corn, red clover and wild flowers growing along fencerows and roadsides beside fields of corn were surveyed. *D. longicornis* (northern corn rootworm) was abundant and *D. undecimpunctata howardi* was common in these areas. (Ill. Ins. Rpt.). MISSOURI - *D. undecimpunctata howardi* adults averaged 20 per 10 sweeps in field of drilled soybeans having immature pods in Callaway County; ranged 0-5 per 10 sweeps in other fields of soybeans in central and east central areas. (Houser, Thomas). NEBRASKA - Adult survey indicated *D. virgifera* to be dominant species in all areas, except in some northeast area fields. In Cedar, Dixon and portions of Boyd and Knox Counties, *D. longicornis* composed majority of corn rootworm population. (Bergman). WYOMING - Only occasional adults of *D. virgifera* found in corn in Goshen County. (Marks).

CORN SAP BEETLE (*Carpophilus dimidiatus*) - ALABAMA - Large numbers of this species and other sap feeding beetles observed in ears of corn previously injured by other insects. Also, quite common on injured cotton bolls, peaches, apples and other decaying fruits and vegetables. (McQueen).

DESERT CORN FLEA BEETLE (*Chaetocnema ectypa*) - ARIZONA - Continues to damage untreated sorghum in areas of Yuma County. (Ariz. Coop. Sur.).

TEN-LINED JUNE BEETLE (*Polyphylla decemlineata*) - IDAHO - Larvae reported infesting approximately 2 acres of corn in Canyon County. (Bechtolt).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - NEW MEXICO - Light to moderate in alfalfa checked in Sandoval and Bernalillo Counties. (N.M. Coop. Rpt.). COLORADO - Continues to increase on alfalfa in Arkansas Valley; counts ranged 1,000-6,000 per 100 sweeps. New plantings of alfalfa can be seriously damaged. (Schweissing). Only trace numbers noted on alfalfa in Weld and Larimer Counties. (Jenkins, Urano, Daniels). Ranged 1-20 per 100 sweeps in western area, where third cutting of alfalfa underway. (Bulla). OKLAHOMA - Heavy (320-550 per 10 sweeps) in alfalfa checked in north central area of State and in Lincoln and Okfuskee Counties. Light (10-100 per 10 sweeps) in Tillman and Choctaw Counties. (Okla. Coop. Sur.). ARKANSAS - Surveys negative in Carroll and Marion Counties. (Ark. Ins. Sur.). ILLINOIS - Counts per 100 sweeps by district during period August 30-September 3 were as follows: West 120-380, southwest 260-320 and west-southwest 240-420. (Ill. Ins. Rpt.).

CORN LEAF APHID (*Rhopalosiphum maidis*) - IDAHO - Building up on corn in Canyon County. (Bechtolt).

A DELPHACID PLANTHOPPER (*Sogata furcifera*) - FLORIDA - Light to medium numbers collected from rice on farms in Belle Glade, South Bay and La Belle areas. (Weaver, Faircloth, Sept. 2-3).

ARMYWORMS (*Pseudaletia* spp.) - SOUTH CAROLINA - *P. unipuncta* (armyworm) present in outbreak numbers in Richland County. (Nettleš et al., Sept. 2). ARKANSAS - *Pseudaletia* sp. caused heavy damage to pastures in Washington County. (Ark. Ins. Sur.).

ASIATIC GARDEN BEETLE (Maladera castanea) - OHIO - Larval populations higher than usual in Wellsville area, Columbiana County. Counts averaged 3 grubs per square foot. (Polivka).

A SPITTLEBUG (Prosapia bicincta) - ALABAMA - Extremely heavy, annoying and potentially damaging on centipede grass lawns in Henry County, on native weeds throughout central area of State and locally on Coastal Bermuda grass and other plants. Nymphs in frothy masses ranged 50-75 per square yard in many fields. Adults extremely heavy on other crops and on grasses and many other plants. (Hartzog, Dennis, Barefield, Buttram, et al.).

RHODES-GRASS SCALE (Antonina graminis) - FLORIDA - Caused wilting of Bermuda grass variety on golf green at Largo, Pinellas County, September 3. (Allen).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - MICHIGAN - Larval entries continue to appear in southwest apple orchards, especially outside rows and exposed trees. (Carpenter). COLORADO - Light traps indicated no flights occurred in Mesa County. Continued cool weather should diminish moth activity on apples and late pear varieties. (Bulla).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - CALIFORNIA - Larvae light on peaches in Fresno, Fresno County. (Cal. Coop. Rpt.). MICHIGAN - Larvae infesting fruits caused very few problems in commercial orchards in southwest; better spray programs during recent years greatly reduced losses. (Carpenter, Conrad).

RED-HUMPED CATERPILLAR (Schizura concinna) - MARYLAND - Larvae caused minor damage to young apple trees in Cecil and Washington Counties. (U. Md., Ent. Dept.).

LESSER PEACH TREE BORER (Synanthedon pictipes) - MICHIGAN - Moths continue to emerge in fruit areas; 20 emerged from 25 trees in research orchard in Oceana County week ending September 3. (Howitt).

PEACH TWIG BORER (Anarsia lineatella) - COLORADO - Little injury noted on Elberta peaches being harvested in Mesa County. (Bulla).

SHOT-HOLE BORER (Scolytus rugulosus) - NEVADA - Medium to heavy in cherry trees south of Reno, Washoe County. (Post).

APPLE MAGGOT (Rhagoletis pomonella) - MICHIGAN - Adults still collected in large numbers on sticky-board traps; 145 taken on 8 traps near Bangor, Van Buren County; 40 adults taken in ornamental crab apple trees in Ingham County during 3 days with 3 experimental ammonium carbonate baited traps. (Carpenter, Wooley, Conrad). OHIO - Sticky-board traps indicate considerable decrease in adult activity. (Lyon).

SPIDER MITES - CALIFORNIA - Tetranychus telarius (two-spotted spider mite) heavy on cherry in Dunlap, Fresno County. (Cal. Coop. Rpt.). NEW MEXICO - T. mcdanieli ranged light to moderate in apple orchards in Corrales-Sandoval area, Sandoval County. Damage to foliage quite severe, specially in small orchards. (N.M. Coop. Rpt.). MICHIGAN - Panonychus ulmi (European red mite) egg hatch high; nymphs heavy in many southwest apple orchards. (Carpenter).

WALNUT CATERPILLAR (Datana integerrima) - ALABAMA - Heavy larval populations feeding on 80 percent or more of pecans in southern Henry County; lesser numbers noted in southeastern Dallas, central Montgomery and western Barbour Counties. Occasional walnut tree partially defoliated. (Barefield).

HICKORY SHUCKWORM (Laspeyresia caryana) - ALABAMA - Considerable pupation observed in pecans in Dallas and Lee Counties. Egg laying occurred recently and small larvae entering shucks. (Eden et al.).

PECAN WEEVIL (Curculio caryae) - OKLAHOMA - Moderate on pecan in Tillman County; none noted in Lincoln County. (Okla. Coop. Sur.).

A FALSE POWDER-POST BEETLE (Xylobiops basilaris) - ALABAMA - Numerous infestations noted in dead and dying limbs of pecan in Henry, Dallas and Lee Counties and in other pecan-growing areas. Species appears not to attack or injure live or healthy limbs in area. (McQueen).

BLACK PECAN APHID (Melanocallis caryaefoliae) - CALIFORNIA - Nymphs and adults heavy on pecan in Chowchilla, Madera County. (Cal. Coop. Rpt.).

Citrus Insect Situation in Florida - End of August - CITRUS RUST MITE (Phyllocoptruta oleivora) infested 40 percent of groves (norm 59 percent); 26 percent economic (norm 38 percent). Population at moderate level and below normal for August. Further decrease will occur through September, although scattered groves will show infestations increasing on fruit. Highest districts are west and south. CITRUS RED MITE (Panonychus citri) infested 35 percent of groves (norm 39 percent); 19 percent economic (norm 20 percent). TEXAS CITRUS MITE (Eutetranychus banksi) infested 34 percent of groves (norm 20 percent); 19 percent economic (norm 7 percent). Current low levels will drop lower in September. A few moderate to heavy infestations may be expected in north and east districts. PURPLE SCALE (Lepidosaphes beekii) is above normal; in low range; little change expected; highest district is south. GLOVER SCALE (L. gloverii) is above normal; in low range; little change expected; highest districts are south and east. CHAFF SCALE (Parlatoria pergandii) is above normal; in low range; little change expected; highest district is east. YELLOW SCALE (Aonidiella citrina) is above normal; in low range; increase expected; highest district is central. BLACK SCALE (Saissetia oleae) is near normal; in low range; little change expected; highest districts are east and south. A SNOW SCALE (Unaspis citri), a LESSER SNOW SCALE (Pinnaspis strachani), DICTYOSPERMUM SCALE (Chrysomphalus dictyospermi) and COTTONY-CUSHION SCALE (Icerya purchasi) are more abundant than usual for August but all are in the low range statewide. PYRIFORM SCALE (Protopulvinaria pyrifomis), BROWN SOFT SCALE (Coccus hesperidum), FLORIDA WAX SCALE (Ceroplastes floridensis) and an ACUMINATE SCALE (Coccus acuminatus) are below normal for August and at very low level. WHITE-FLIES infested 64 percent of groves (norm 55 percent); 31 percent economic (norm 13 percent). Population will continue above normal and in high range despite a downward trend expected in September. MEALYBUG population has dropped into low range and will continue to decrease. It is still above normal for August. Highest district is south. (W. A. Simanton, (Citrus Expt. Sta., Lake Alfred)).

ORANGE-DOG (Papilio cresphontes) - ARIZONA - Larvae continue to increase on citrus in Yuma, Maricopa and Pinal Counties. (Ariz. Coop. Sur.).

CALIFORNIA RED SCALE (Aonidiella aurantii) - CALIFORNIA - Heavy on citrus in Arroyo Grande, San Luis Obispo County. (Cal. Coop. Rpt.).

CITRUS THRIPS (Scirtothrips citri) - ARIZONA - Populations increasing on new citrus growth in Yuma County. (Ariz. Coop. Sur.).

A GRASSHOPPER (Melanoplus yarrowii) - ARIZONA - Continues to feed on citrus in Yuma County. Population light; damage not yet serious. (Ariz. Coop. Sur.).

MEXICAN FRUIT FLY (Anastrepha ludens) - CALIFORNIA - Total of 16 marked, sterile flies recovered in San Diego County during period September 5-11. (Cal. Coop. Rpt.).

WESTERN GRAPE LEAF SKELETONIZER (Harrisina brillians) - CALIFORNIA - New infestation in City of Fresno reported in CEIR 14(37):1047-1048 located 15 miles east of City of Kerman. Survey to September 11 revealed 44 infested properties in an area 0.75 mile north and south and 0.5 mile east and west. Nearest commercial vineyards approximately 0.5 mile to west of known infestation. All infested properties treated. Preliminary evidence indicates source of infestation may be other than Kerman or Livermore. Survey results continue negative in these 2 areas. (Cal. Coop. Rpt.). ARIZONA - Larvae heavily defoliated backyard grapevines in Safford, Graham County. (Ariz. Coop. Sur.).

GRAPE BERRY MOTH (Paralobesia viteana) - MICHIGAN - Adult flight and egg laying for third brood general over grape-growing area of southwest; adults of current brood began emerging August 31 at Mattawan, Van Buren County. (Carpenter, Connor).

PUTNAM SCALE (Aspidiotus ancylus) - NEW JERSEY - Observed on blueberries in several areas. (Ins.-Dis. Newsltr.).

BLUEBERRY BUD MITE (Aceria vaccinii) - NEW JERSEY - Again causing some concern in few areas. (Ins.-Dis. Newsltr.).

TRUCK CROP INSECTS

CABBAGE LOOPER (Trichoplusia ni) - ARIZONA - Eggs and small larvae appearing on cantaloup in Yuma County. (Ariz. Coop. Sur.). NEW MEXICO - Eggs and larvae becoming more numerous on lettuce in Dona Ana County. (N.M. Coop. Rpt.). WISCONSIN - Larvae continue a problem to cabbage producers in Outagamie County. (Wis. Ins. Sur.).

BEET ARMYWORM (Spodoptera exigua) - NEW MEXICO - Serious on lettuce in Dona Ana County during past 2 weeks. Populations now becoming lighter; treatments applied to many fields. (N.M. Coop. Rpt.).

TOMATO FRUITWORM (Heliothis zea) - COLORADO - Eggs averaged 5.6 per 100 leaves on tomato in Arkansas Valley; no parasitism evident September 10. Moths averaged 125 per night in light trap at Rocky Ford; 186 taken September 9. (Schweissing). UTAH - Particularly numerous on tomatoes and potatoes in Salt Lake County; controls applied to most commercial tomatoes in county. (Parrish, Knowlton).

PICKLEWORM (Diaphania nitidalis) - SOUTH CAROLINA - Unusually numerous and difficult to control on fall cantaloups. (Nettles et al., Sept. 8).

RASPBERRY CROWN BORER (Bembecia marginata) - MICHIGAN - Adult emergence and egg laying underway in research plots at Bridgeman, Berrien County; no egg hatch noted. This species considered most serious pest of raspberries in area. (Howitt).

BANDED CUCUMBER BEETLE (Diabrotica balteata) - LOUISIANA - Light on sweetpotatoes and caused little damage to September 8. (Tynes).

MEXICAN BEAN BEETLE (Epilachna varivestis) - WYOMING - Adult and larval populations spotty on late maturing field beans in Goshen County; only slight damage noted. Harvest approximately 40 percent complete. (Marks).

DARKLING BEETLES (Blapstinus spp.) - ARIZONA - Scattered populations on lettuce in Yuma and Maricopa Counties required some controls. (Ariz. Coop. Sur.).

GREEN PEACH APHID (Myzus persicae) - MICHIGAN - High populations of nymphs and adults built up rapidly on potatoes in area covering approximately 10 miles in each direction from Stanton, Montcalm County. Also suspected of being responsible for serious injury on muck crops including celery and lettuce in western part of Lower Peninsula; 20 acres of celery near Grant, Newaygo County, unsalable because of recent damage. (Beal, Guyer, Trocke).

APHIDS - COLORADO - Populations on late potatoes steadily increasing in Weld County; winged and wingless forms in most fields. Counts range 9-5,000 per 25 leaves. Numbers low or nonexistent in few remaining early planted fields. (Simpson). TEXAS - Light locally on cantaloup in Wichita County. (Turney). MARYLAND - Pentatrichopus sp. common on opening leaves of strawberry at Glendale, Prince Georges County. (U. Md., Ent. Dept.). NEW JERSEY - Alates of species which transmit strawberry virus diseases now active. (Ins.-Dis. Newsltr.).

FIELD CRICKETS (Gryllus spp.) - ARIZONA - Damaged young lettuce in Yuma County; some treatments required. (Ariz. Coop. Sur.). WISCONSIN - Reported feeding on tomato fruit in Richland County. (Wis. Ins. Sur.).

SPIDER MITES (Tetranychus spp.) - OKLAHOMA - Moderate on vegetables in Bryan County. (Okla. Coop. Sur.).

WEATHER BUREAU'S 30-DAY OUTLOOK

MID-SEPTEMBER TO MID-OCTOBER 1964

The Weather Bureau's 30-day outlook for mid-September to mid-October calls for temperatures to average below seasonal normals over the eastern quarter of the Nation. Above normal temperatures are expected over the Plains, Rocky Mountains, and Plateau regions. Near normal values are called for in unspecified areas. Precipitation is expected to exceed normal over New England and along the South Atlantic Coast as well as over the Southern Plateau and the extreme Northwest. Subnormal precipitation is indicated for the Great Plains and the Mississippi and Tennessee Valleys as well as over California. Elsewhere near normal amounts are in prospect.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price \$5.00 a year.

COTTON INSECTS

BOLLWORMS (Heliothis spp.) - CALIFORNIA - Continue very active in Fresno County; particularly abundant in southern portion of county. As infestations much easier to control when larvae small, growers should make frequent field inspections to time applications as accurately as possible. (Stromberg, Sept. 3). Poor control reported with various insecticides in Fresno, Tulare, Kings and Imperial Counties. Investigations underway in central valley and southern part of State to develop improved methods of control and reason for present difficulties with available materials. (Burton, Sept. 7). NEW MEXICO - Populations remain mostly light in Dona Ana County cotton; highest counts 2-6 percent infested bolls. (N.M. Coop. Rpt.). TEXAS - Light populations present in Deaf Smith, Childress, Lamar, Hamilton, Lubbock, Briscoe, Crosby, Swisher, Floyd, Cottle, Gaines, Hall, Garza and Motley Counties. Light to moderate infestations reported in north central area of State and moderate to heavy populations found in some fields in Midland, Reeves, Wilbarger, Collingsworth and Mitchell Counties. (Texas Coop. Rpt.). OKLAHOMA - Heavy infestations of 40-60 percent present in cotton in Osage and Choctaw Counties; moderate infestation of 9 percent reported in Tillman County and light in Bryan County. (Okla. Coop. Sur.). MISSOURI - Larvae ranged 0-40 and eggs 0-37 per 100 terminals in 69.6 percent of 644 fields scouted in south-east area; treatment applied to 3,170 acres in 120 fields. (Harrendorf, Jones). TENNESSEE - Continue to cause considerable damage over cotton-growing area; all larval stages present. Controls underway. Control extremely difficult at this time and will continue so throughout remainder of growing season. (Locke). LOUISIANA - Populations generally light, but heavy in few areas. (Tynes, Sept. 8). ALABAMA - Activity remains generally unchanged. (McQueen). SOUTH CAROLINA - Continue most important pests of cotton in some upper Piedmont counties. (Cott. Lett., Sept. 7).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Infestations increasing in Cayanosa area of Reeves County. (Rummel).

CABBAGE LOOPER (Trichoplusia ni) - ARIZONA - Scattered populations causing light damage to cotton in Graham, Maricopa and Pinal Counties. (Ariz. Coop. Sur.). LOUISIANA - Causing some foliage loss in some areas. (Tynes, Sept. 8). ALABAMA - Infestation extremely high with considerable amount of defoliation in one large field in Dallas County. (McQueen). SOUTH CAROLINA - Present in all counties, but apparently of little concern. (Cott. Lett., Sept. 7).

BETT ARMYWORM (Spodoptera exigua) - ARIZONA - Light infestations appearing on cotton in areas of Pima, Pinal and Maricopa Counties. (Ariz. Coop. Sur.). TEXAS - Light populations reported on cotton in Midland County. (Rummel).

SALT-MARSH CATERPILLAR (Estigmene acrea) - ARIZONA - Light on cotton in Graham, Maricopa and Pinal Counties. Migrations becoming more apparent. Few controls applied. Eggs and some larvae appearing in Yuma County. (Ariz. Coop. Sur.).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - ARIZONA - Infestations continue light to moderate in Maricopa, Pinal and Pima Counties. Remains most important problem in Yuma County cotton. (Ariz. Coop. Sur.).

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Light to moderate populations building up in fields not desiccated in north central area; ranged light to moderate in Childress and Hamilton Counties. Light infestations reported in Lamar County. Boll weevil found in 200 fields above the Cap Rock in Briscoe, Floyd, Crosby, Dickens and Lubbock Counties. Below the Cap Rock, populations increasing in irrigated cotton and some dryland cotton that has received recent moisture. (Texas Coop. Rpt.). OKLAHOMA - Infestations heavy (35-80 percent) in Grady and Choctaw Counties; moderate (18-20 percent) in Tillman County; and light in Bryan

County. No punctured squares found in Osage County. (Okla. Coop. Sur.). TENNESSEE - Dry weather taking toll of weevil larvae, especially where eggs laid in squares in western area; mortality much less where eggs laid in small bolls. Migration continues to north where adults found in succulent, rank fields. Square counts in heavily infested area of no value due to scarcity of squares. Migrating weevils will appear in previously uninfested counties, but very little damage expected this late in season. (Locke). LOUISIANA - Weevils migrating; young bolls should be protected. Infestations high in some areas. (Tynes, Sept. 8). ALABAMA - Heavy buildup, "hatchout" and over-lapping of generations continue. Heavier infestations now reported in northern section of State; 1-5 half-grown bolls selected in Henry, Lee and Dallas Counties contained 1-5 full-grown larvae and pupae. One to six weevils feeding on bolls; egg laying underway. (McQueen). SOUTH CAROLINA - Weevils feeding generally in fields where crop not completely mature and not protected. Infestations remain below 10 percent in parts of upper Coastal Plains and most Piedmont counties where controls continue on 5-day interval. (Cott. Lett., Sept. 7).

APHIDS - CALIFORNIA - Populations reduced in Fresno County; however, as cooler weather becomes more common, populations could increase substantially, resulting in deposition of honeydew on lint of open bolls. Although problem not serious at present, close watch should be maintained as season progresses. (Stromberg, Sept. 3). SOUTH CAROLINA - Not reported as serious problem in any cotton-growing county this season. (Cott. Lett., Sept. 7).

PLANT BUGS - ARIZONA - Populations apparently remain constant; damage to squares and small bolls still being found. Some control still required. (Ariz. Coop. Sur.). MISSOURI - Adults and nymphs of several species ranged 1-21 per 100 terminals in 55 percent of 644 fields scouted in southeast. (Harrendorf, Jones). TENNESSEE - Several species present in higher numbers than in several years in western area; of little significance at this time, however. Some severe damage resulted where no controls applied. (Locke).

SPIDER MITES - CALIFORNIA - High populations still found in cotton adjacent to dusty roads or weedy areas in Fresno County. Generally, populations not increasing as rapidly as during recent weeks. (Stromberg, Sept. 3). MISSOURI - Infestations found in 3.7 percent of 644 fields scouted in southeast; no controls applied. (Harrendorf, Jones). SOUTH CAROLINA - Populations partially suppressed by recent heavy rains. (Cott. Lett., Sept. 7).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

BARK BEETLES - MARYLAND - Adults of Ips grandicollis collected July 20 from pines at Millersville, Anne Arundel County. (U. Md., Ent. Dept.). ARKANSAS - Dendroctonus terebrans (black turpentine beetle) infestations about normal for season. Overly weakened trees with medium to large numbers in most areas of State. I. grandicollis and I. calligraphus in much larger numbers than usual; western area of State heaviest infested. I. avulsus responsible for most of primary attacks in Ips infestations. (Ark. For. Pest Rpt., Sept.). TEXAS - D. frontalis (southern pine beetle) infestations in Hardin, Jasper, Liberty, Polk, San Augustine, San Jacinto and Tyler Counties. Most activity in same area was indicated last month, being in northerly portion of area involved. Unusual damage by D. terebrans in recently logged areas of Angelina, Houston, Jasper, San Augustine and Trinity Counties. Salvage in progress for infestations of I. avulsus, I. grandicollis and I. calligraphus over several hundred acres in Polk County. (Texas For. Pest Comm., Aug. Rpt.).

DOUGLAS-FIR TUSSOCK MOTH (Hemerocampa pseudotsugata) - IDAHO - Adults abundant. Adult emergence continuing and egg laying general in Latah County. (Gittins).

PINE TUSSOCK MOTH (Dasychira plagiata) - MINNESOTA - Populations at endemic levels this season. Egg mass survey showed no counts above normal in previously highly infested areas. (Minn. Ins. Rpt., Sept. 8).

A PINE TIP MOTH (Rhyacionia sp.) - NEBRASKA - Damaging pines in Box Butte County. (Bergman).

ORANGE-STRIPED OAKWORM (Anisota senatoria) - GEORGIA - Light to moderate on oak and other trees in Atlanta area. (Blasingame, Ridley). NORTH CAROLINA - Larvae from oak locally in Gaston County. (Sproles, Robertson). ILLINOIS - Noticeably defoliating lower limbs and tips of branches on oaks north of Hanover in Jo Daviess County. (Ill. Ins. Rpt.).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - CALIFORNIA - Heavy populations in bark of Chinese elms in Yucaipa, San Bernardino County. (Cal. Coop. Rpt.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - NEW MEXICO - All stages light on Chinese elms at Corrales, Sandoval County. This is a new county record. (N.M. Coop. Rpt.). UTAH - Damage more common than normal in several areas of Salt Lake County and near Five Points, Weber County. (Knowlton). OKLAHOMA - Heavy in Mayes County. (Okla. Coop. Sur.). ARKANSAS - Activity heavy on Chinese elms. (Ark. For. Pest Rpt., Sept.).

AMERICAN DAGGER MOTH (Acronicta americana) - NEVADA - Medium to heavy damage to boxelder in Reno-Sparks area, Washoe County. (Cooney).

FALL WEBWORM (Hyphantria cunea) - ARKANSAS - Heavy infestation in northwest corner of State. (Ark. For. Pest Rpt., Sept.). ILLINOIS - Nests quite common throughout State and abundant in localized areas. (Ill. Ins. Rpt.).

MIMOSA WEBWORM (Homadaula albizziae) - ALABAMA - Damage to mimosa extremely heavy in Montgomery and Dallas Counties. (Harper et al.).

COCCIDS - DELAWARE - Lepidosaphes ulmi (oystershell scale) heavy on elm locally in New Castle County. (Bray). MARYLAND - L. ulmi infesting chestnut at Cumberland, Allegany County. Lecanium nigrofasciatum (terrapin scale) infesting red maple at Hyattsville, Prince Georges County. (U. Md., Ent. Dept.). OHIO - Several infestations of Neolecanium cornuparvum (magnolia scale) on magnolias in northeast section. (Neiswander, Lyon). OKLAHOMA - Unaspis euonymi (euonymus scale) damaging euonymus in Perry, Noble County. (Okla. Coop. Sur.). NEW MEXICO - Gossyparia spuria (European elm scale) very heavy on elms near Corrales, Sandoval County. Forming almost a solid crust on small branches. (N. M. Coop. Rpt.). CALIFORNIA - Pseudococcus obscurus heavy on tuberous begonia nursery plants in San Bruno, San Mateo County. (Cal. Coop. Rpt.).

ROOT WEEVILS (Brachyrhinus spp.) - NEVADA - Adults heavy on lilac and privet in Reno, Washoe County. (Coop. Rpt.).

BROAD-NECKED ROOT BORER (Prionus laticollis) - RHODE ISLAND - Larvae caused death and toppling of crab apple tree in Richmond, Washington County. (Sorensen, Mathewson).

EUROPEAN EARWIG (Forficula auricularia) - UTAH - Notching lilac leaves in some areas and leaves of other shrubs in several areas of Salt Lake County. (Knowlton). MICHIGAN - Adults recently reported from Orleans for a new county record in Ionia County. (Schrauben).

AN ERIOPHYID MITE (Aceria boycei) - CALIFORNIA - Heavy on Ambrosia psilostachya in Arroyo Grande, San Luis Obispo County. (Cal. Coop. Rpt.).

A PLANT BUG (Heterotoma meriopterum) - CALIFORNIA - Two adults collected on hollyhock at Red Bluff, Tehama County, June 15, 1964, by E. L. Deitz. Det. by R. C. Froeschner. This is a new State record. (Cal. Coop. Rpt.).

APHIDS - MARYLAND - Probably Lachnus salignus numerous on weeping willow at Colesville, Montgomery County. (U. Md., Ent. Dept.). OKLAHOMA - Undetermined species heavy on ornamentals in Hugo, Choctaw County. (Okla. Coop. Sur.). UTAH - Pterocomma spp. extremely numerous on weeping and other willows in Holladay and other areas of Salt Lake County. (Knowlton, Burningham). Therioaphis tiliae numerous and injurious on lindens in areas of Cache, Box Elder and Salt Lake Counties. (Knowlton).

AZALEA CATERPILLAR (Datana major) - ALABAMA - Several heavy infestations on azaleas in Henry County. (Hartzog, Dennis).

INSECTS AFFECTING MAN AND ANIMALS

HORN FLY (Haematobia irritans) - WYOMING - With cooler weather, adults have decreased on livestock in Goshen County. Estimated 40-75 flies per animal. (Marks). OKLAHOMA - Moderate to heavy on cattle in McCurtain, Murray and Mayes Counties. (Okla. Coop. Sur.). ILLINOIS - Counts per animal during week of August 30-September 3 by district were as follows: West 10-50, southwest 25 and west-southwest 5-40. (Ill. Ins. Rpt.). GEORGIA - Counts of 6-400 (average 93) on one herd of cattle in Cobb County. (Vanderford).

TABANIDS - NORTH CAROLINA - Tabanus spp. of concern to producer of milk cartons in northeastern area. A few cartons found with flies embedded under plastic coating. (Falter, Mount). LOUISIANA - Horse flies alighting on mare at rate of 33.3 per minute in Cameron Parish. Counts per cow averaged 1.4 in St. Landry, 9.6 in Iberville and 1.4 in Acadia Parishes. (Tynes, Sept. 8). OKLAHOMA - Tabanus spp. heavy in Choctaw County. Averaged 1 per cow in McCurtain County. (Okla. Coop. Sur.).

STABLE FLY (Stomoxys calcitrans) - ILLINOIS - Counts per animal during week of August 30- September 3 by district were as follows: West 0.3, southwest 3 and west-southwest 1-4. (Ill. Ins. Rpt.). WISCONSIN - A nuisance, although normal in abundance. (Wis. Ins. Sur.). WYOMING - Occasional adults annoying to livestock in Goshen County. (Marks).

MOSQUITOES - WISCONSIN - Undetermined species fairly annoying in northeastern counties. (Wis. Ins. Sur.). OKLAHOMA - Large numbers of several species in Le Flore and Choctaw Counties. Numbers decreased in Payne County. (Okla. Coop. Sur.). TEXAS - The light trap for night of July 8-9 totaled 2,400 female and 200 male Aedes sollicitans. Flight lasted less than a week. Considerable Culex salinarius breeding in Sabine salt marshes on July 20. A total of 175 C. salinarius trapped in July 1964, whereas only 5 taken in 1963. C. erraticus becoming more numerous in rice fields. (Jefferson Co. Mosq. Cont. Distr., July).

SAND FLIES (Culicoides spp.) - WISCONSIN - A problem in Vilas County where they have been abundant for several weeks. (Wis. Ins. Sur.).

FACE FLY (Musca autumnalis) - ILLINOIS - Counts per animal during week of August 30 to September 3, by district, were as follows: West 1-5, southwest 1 and west-southwest 1-3. (Ill. Ins. Rpt.). MISSOURI - Counts per head of cattle averaged 2.6 in Boone County, 4.2 in Randolph County (G. D. Thomas) and 3.5 in St. Charles County (Houser, Thomas).

HOUSE FLY (Musca domestica) - WISCONSIN - Populations increased. (Wis. Ins. Sur.). OHIO - Moderate to heavy at several roadside parks in central area. People on picnics complain of fly annoyance. (Lyon).

SECONDARY SCREW-WORM (Cochliomyia macellaria) - SOUTH DAKOTA - Larvae feeding on open wounds of beef cattle in Meade County during week of July 25-31. Det. by G. Steyskal. (Hintz, Kantack).

SADDLEBACK CATERPILLAR (Sibine stimulea) - GEORGIA - Several reports of children being stung while handling larvae in Atlanta area. (Ridley).

TICKS - OKLAHOMA - Undetermined species heavy in Le Flore and McCurtain Counties. (Okla. Coop. Sur.).

A BLOODSUCKING CONENOSE (Triatoma protracta) - CALIFORNIA - Medium populations in residence in Mojave, Kern County, and light in Valley Springs, Calaveras County. (Cal. Coop. Rpt.).

WASPS - MINNESOTA - Numerous inquiries from homeowners in Minneapolis-St. Paul area. Nests in house foundations and in ground. Painful stings to residents. (Minn. Ins. Rpt.).

HOUSEHOLD AND STRUCTURAL INSECTS

BOXELDER BUG (Leptocoris trivittatus) - OHIO - Complaints of these pests entering houses and other buildings in Columbus, Franklin County. (Jones). NORTH CAROLINA - Nymphs a nuisance around a Buncombe County home. (Palmer).

TERMITES (Reticulitermes spp.) - NORTH CAROLINA - R. flavipes (eastern subterranean termite) swarmed from heavily infested timbers in Orange County home, August 29. (Wray). MARYLAND - Reticulitermes sp. workers uncovered near foundations of homes in Dorchester and Prince Georges Counties. (U. Md., Ent. Dept.).

CRICKETS - WISCONSIN - Nuisance to householders in Sauk County. (Wis. Ins. Sur.).

GREATER WAX MOTH (Galleria mellonella) - CALIFORNIA - Medium infestation of larvae in building from bee colony located in building in Walnut Grove, Sacramento County. (Cal. Coop. Rpt.).

BENEFICIAL INSECTS

LADY BEETLES - ALABAMA - Hippodamia convergens (convergent lady beetle) and Coleomegilla maculata fuscilabris in great numbers feeding on Rhopalosiphum maidis (corn leaf aphid) in late corn in Dallas County. Extremely large numbers of Olla abdominalis feeding on undetermined aphids on pecans in Henry County. (McQueen). NEW MEXICO - Undetermined species averaged 20-30 adults and larvae per 25 sweeps in Bernalillo County alfalfa fields. (N.M. Coop. Rpt.). WYOMING - Adults of several species averaged 32 per 100 sweeps in alfalfa fields of Goshen County. (Marks).

A WEEVIL (Apion fuscirostre) - CALIFORNIA - Heavy in Scotch broom seeds in Georgetown, El Dorado County, and Nevada City, Nevada County. (Cal. Coop. Rpt.).

DAMSEL BUGS (Nabis spp.) - WYOMING - Large populations of adults in alfalfa fields of Goshen County. Counts averaged 160 per 100 sweeps. (Marks). OHIO - Populations of N. fesus building up in forage fields throughout State. Seven bugs per 25 sweeps in alfalfa field in Franklin County. (Lyon).

LACEWINGS (Chrysopa spp.) - WYOMING - Adults averaged 20 and larvae 82 per 100 sweeps in alfalfa fields in Goshen County. (Marks). NEW MEXICO - Averaged 2-3 adults and 1-3 larvae per 25 sweeps in Sandoval County alfalfa fields. In Albuquerque area, Bernalillo County, average counts per 25 sweeps were 2-3 adults and 4-8 larvae. (N.M. Coop. Rpt.).

MISCELLANEOUS INSECTS

MOTTLED TORTOISE BEETLE (Deloyala guttata) - ALABAMA - Extremely heavy numbers, in combination with lesser numbers of Agroiconota bivittata, feeding on morning-glory in corn and cotton fields throughout Dallas County. (McQueen).

JAPANESE BEETLE (Popillia japonica) - OHIO - Larval counts in Washington, Columbiana, Gallia, Jefferson and Tuscarawas Counties lowest in years. Counts of 0-2 grubs per square foot in areas which yielded up to 25 per square foot in past years. Low rainfall apparently contributed to reduced larval populations. (Polivka).

PUMPKIN CATERPILLER (Diaphania indica) - FLORIDA - Adult collected in Steiner trap at Avon Park, Highlands County, September 9. (Morris).

A LICHEN BAGWORM (Zamopsyche commentella) - DELAWARE - Many bags of this rather rare species on elm trunk locally in Sussex County. Collected by E. Ralph. (Burbutis).

CLOUDED SULPHUR (Colias philodice) - ALABAMA - Adults migrating in a southeasterly direction throughout State. As many as 4 per 100 feet crossed highways during week. (McQueen).

AN EARTHWORM MITE (Fusuropoda agitans) - CALIFORNIA - Very heavy in earthworm beds in Madera, Madera County. (Cal. Coop. Rpt.).

INTERCEPTIONS

A BROWN SPIDER (Loxosceles reclusa) - WYOMING - Live specimen collected from furniture brought into Albany County from out of the State. Det. by F. A. Lawson. (Marks).

CORRECTIONS

CEIR 14(36):1021 - Aphids on Potatoes in Maine - Line 7: Acyrtosiphon solani should read Aphis nasturtii.

CEIR 14(29):790 and 14(30):834 - A CHALCID - MISSOURI - Has been determined Amblymerus sp. (Hymenoptera: Pteromalidae). Thought to be a parasite of a midge species developing in brome seed.

LIGHT TRAP COLLECTIONS

WISCONSIN	Temperature °F.	Precipita- tion	Type of trap *	Major crop **															
				Apple (black cutworm)	Carrots (moth)	Chorizanthe pomonella	Chorizanthe	Army cutworm	Asciagene	Asciagene	Asciagene	Asciagene	Asciagene	Asciagene	Asciagene	Asciagene	Asciagene	Asciagene	Asciagene
Darien 9/9			BL	257															
Delavan 9/8			BL	61															
Fox Lake 9/7			BL																
Arlington #1 9/9			BL																
Arlington #2 9/1-9			BL																
Madison 9/2-9			BL	111															
Middleton 9/2-9			BL	41															
Beaver Dam 9/1-7			BL																
Oakfield 9/1-7			BL																
De Forest 9/1-7			BL	14															
Eden 9/1-7			BL																
Wayne 9/1-7			BL																
Theresa 9/1-7			BL																
Nenno 9/1-7			BL																
Racine 9/1-7			BL	12															
Cobb 8/25-31			BL	4															
Cedar Grove 8/25-31			BL																

* BL = blacklight; I = incandescent; MV = mercury vapor; Q = other

** alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; pot. = potato; SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; FC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.

STATUS OF THE SCREW-WORM (*Cochliomyia hominivorax*) IN THE SOUTHWEST

No screw-worm cases reported from TEXAS or NEW MEXICO September 6-12. In ARIZONA, 15 cases reported: Cochise (8), Santa Cruz (5), Yavapai (1) and Pima (1) Counties. Mexico reported 241 cases in States of Veracruz (2), San Luis Potosi (2), Nuevo Leon (3), Chihuahua (74), Sonora (116), Zacatecas (4), Puebla (2), Durango (23), Tamaulipas (9) and Coahuila (6). Sterile screw-worm flies released: 19,769,850 in Texas, 600,000 in New Mexico, 7,146,000 in Arizona and 66,440,000 in Mexico,

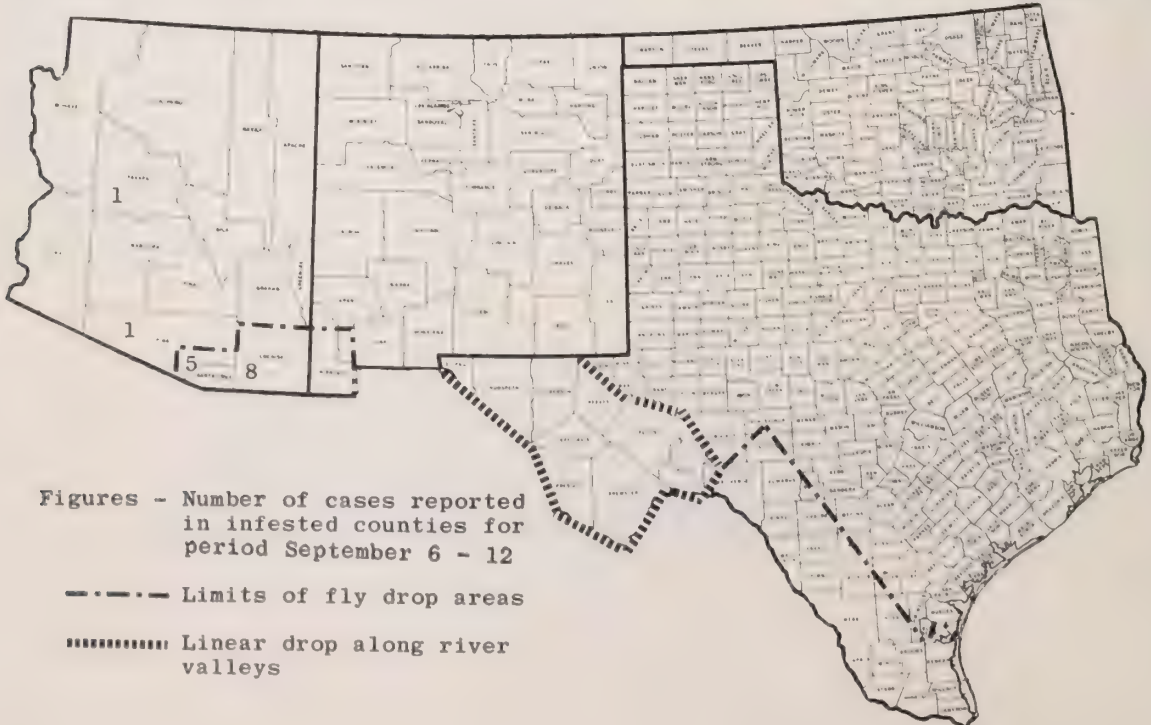
Table 1. Comparison of specimens reported during the corresponding weeks in 1962 and 1963 in Southwestern Eradication Area.

Year	Positive Cases		Negative Cases*		Ratio of Positive Cases to 100 Cases Negative**	
	Current	Cumulative	Current	Cumulative	Current	Cumulative
1962	873	35,637	50	2,339	1,746.0	1,523.6
1963	140	2,783	82	4,868	170.7	57.2
1964	0	107	61	4,442	0.0	2.4

Table 2. Comparison of specimens reported during corresponding weeks and in a corresponding area in 1963 in the United States-Mexico Barrier Zone.***

Year	Positive Cases		Negative Cases*		Ratio of Positive Cases to 100 Cases Negative**	
	Current	Cumulative	Current	Cumulative	Current	Cumulative
1963	212	2,717	15	1,009	1,413.3	269.3
1964	222	2,112	32	1,477	693.75	143.0

- * The number of cases not screw-worm is an index of the efficiency of the reporting system.
- ** A comparison of the ratios of screw-worm cases with cases not screw-worm is an index of the change in number of screw-worm cases.
- *** Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of a self-sustaining screw-worm population in the United States. (Anim. Dis. Erad. Div.).



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